Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A tone data processing device capable of collectively receiving, from a storage device storing waveform sample data sampled at a given sampling rate, a given number of the waveform sample data for a plurality of channels asynchronously with the given sampling rate and generating tone data on the basis of the waveform sample data received from said storage device, said tone data processing device being connectable to a central processing unit and said storage device via a bus of the central processing unit, said tone data processing device comprising:

an input buffer for storing the waveform sample data for each of the channels collectively received from said storage device via said bus;

an output buffer; and

a processor connected with said input buffer and said output buffer and adapted to execute:

a first process for collectively reading out, for each of the channels, a given number of the waveform sample data stored in said input buffer and converting, for each of the channels, the sampling rate of the read-out waveform sample data to an inner sampling rate selected for each of the channels from among a plurality of predetermined inner sampling rates, wherein said first process compares the sampling rate of the waveform sample data stored in said input buffer and the plurality of predetermined inner sampling rates to thereby select one of the predetermined inner sampling rates which is higher than or equal to and closest to the sampling rate of the waveform sample data, and converts the sampling rate of the waveform sample data to the selected inner sampling rate;

a second process for performing, for each of the channels, predetermined arithmetic processing on the waveform sample data converted to the selected inner sampling rate;

a third process for converting, for each of the channels, the waveform sample data having undergone the predetermined arithmetic processing to a predetermined output sampling rate; and

a fourth process for writing, into said output buffer, the waveform sample data converted to the predetermined output sampling rate.

Claim 2 (original): A tone data processing device as recited in claim 1 wherein said processor is adapted to further perform a process for sequentially reading out the waveform sample data from said output buffer at an output sampling frequency corresponding to said predetermined output sampling rate to thereby generate tone data in accordance with the output sampling frequency.

Claims 3 and 4 (canceled)

Claim 5 (currently amended): A tone data processing device as recited in claim 1 wherein said fourth process accumulates the waveform sample data of a given channel ~~to~~ with the waveform sample data of another channel already written in said output buffer and thereby renews stored contents of said output buffer with resultant accumulated values of the waveform sample data in such a manner that waveform data obtained by adding together the waveform sample data converted to said predetermined output sampling rate are ultimately stored into said output buffer.

Claim 6 (currently amended): A tone data processing device ~~as recited in claim 1~~ capable of collectively receiving, from a storage device storing waveform sample data sampled at a given sampling rate, a given number of the waveform sample data for a plurality of channels asynchronously with the given sampling rate and generating tone data on the basis of the waveform sample data received from said storage device, said tone data processing device being connectable to a central processing unit and said storage device via a bus of the central processing unit, said tone data processing device comprising:

an input buffer for storing the waveform sample data for each of the channels collectively received from said storage device via said bus;

an output buffer; and

a processor connected with said input buffer and said output buffer and adapted to execute:

a first process for collectively reading out, for each of the channels, a given number of the waveform sample data stored in said input buffer and converting, for each of the channels, the sampling rate of the read-out waveform sample data to an inner sampling rate selected for each of the channels from among a plurality of predetermined inner sampling rates;

a second process for performing, for each of the channels, predetermined arithmetic processing on the waveform sample data converted to the selected inner sampling rate;

a third process for converting, for each of the channels, the waveform sample data having undergone the predetermined arithmetic processing to a predetermined output sampling rate; and

a fourth process for writing, into said output buffer, the waveform sample data converted to the predetermined output sampling rate,

wherein the waveform sample data of individual ~~one of the~~ channels transferred from said storage device to said input buffer can be of different sampling rates,

wherein said first process performed by said processor is capable of converting the waveform sample data to different inner sampling rates depending on respective channels of the waveform sample data, and

wherein when it is possible to perform predetermined arithmetic processing of same contents on the waveform sample data of different channels having been converted to a same inner sampling rate, said second process adds together corresponding ones of the waveform sample data of the different channels and performs the predetermined arithmetic processing on the added waveform sample data.

Claim 7 (previously presented): A tone data processing device as recited in claim 1 wherein said storage device is managed via said central processing unit.

Claim 8 (canceled)

Claim 9 (currently amended): A tone data processing device ~~as recited in claim 8~~ capable of collectively receiving, from a storage device storing waveform sample data sampled at a given sampling rate, a given number of the waveform sample data for a plurality of channels asynchronously with the given sampling rate and generating tone data on the basis of the waveform sample data received from said storage device, said tone data processing device being connectable to a central processing unit and said storage device via a bus of the central processing unit, said tone data processing device comprising:

an input buffer for storing the waveform sample data for each of the channels collectively received from said storage device via said bus;

an output buffer; and

a processor connected with said input buffer and said output buffer and adapted to execute:

a first process for collectively reading out, for each of the channels, a given number of the waveform sample data stored in said input buffer and converting, for each of the channels, the sampling rate of the read-out waveform sample data to an inner sampling rate selected for each of the channels from among a plurality of predetermined inner sampling rates;

a second process for performing, for each of the channels, predetermined arithmetic processing on the waveform sample data converted to the selected inner sampling rate;

a third process for converting, for each of the channels, the waveform sample data having undergone the predetermined arithmetic processing to a predetermined output sampling rate; and

a fourth process for writing, into said output buffer, the waveform sample data converted to the predetermined output sampling rate,

wherein the predetermined arithmetic processing performed by said processor includes a filter process, and a resolution of a set of coefficients to be used in said filter process is changed in accordance with the selected inner sampling rate.

Claim 10 (original): A tone data processing device as recited in claim 1 wherein the predetermined arithmetic processing performed by said processor includes at least one of a filter process, amplification process, mixing process and effect imparting process.

Claim 11 (original): A tone data processing device as recited in claim 1 wherein when converting the sampling rate of the waveform sample data to the inner sampling rate, said first process performed by said processor also performs an operation for setting a pitch of a tone based on the waveform sample data in accordance with tone pitch control information.

Claim 12 (currently amended): A computer system comprising:

a central processing unit;

a storage device storing waveform sample data sampled at a given sampling rate and connected via a bus to said central processing unit; and

a tone data processing device connected via said bus to said central processing unit and said storage device, said tone data processing device collectively receiving, from said storage device, a given number of the waveform sample data for a plurality of channels asynchronously with the given sampling rate under control of said central processing unit and generating tone data on the basis of the waveform sample data collectively received from said storage device, said tone data processing device ~~comprising:~~ comprising,

an input buffer for storing the waveform sample data for each of the channels collectively received from said storage device via said bus;

an output buffer; and

a processor connected with said input buffer and said output buffer and adapted to ~~perform:~~ perform,

a first process for collectively reading out, for each of the channels, a given number of the waveform sample data stored in said input buffer and converting, for each of the channels, the sampling rate of the read-out waveform sample data to an inner sampling rate selected for each of the channels from among a plurality of predetermined inner sampling rates, wherein said first process compares the sampling rate of the waveform sample data stored in said input buffer and the plurality of predetermined inner sampling rates to thereby select one of the predetermined inner sampling rates which is higher than or equal to and closest to the sampling rate of the waveform sample data, and converts the sampling rate of the waveform sample data to the selected inner sampling rate;

a second process for performing, for each of the channels, predetermined arithmetic processing on the waveform sample data converted to the selected inner sampling rate;

a third process for converting, for each of the channels, the waveform sample data having undergone the predetermined arithmetic processing to a predetermined output sampling rate; and

a fourth process for writing, into said output buffer, the waveform sample data converted to the predetermined output sampling rate.

Claim 13 (original): A computer system as recited in claim 12 wherein said processor is adapted to further perform a process for sequentially reading out the waveform sample data from said output buffer at an output sampling frequency corresponding to said predetermined output sampling rate to thereby generate tone data by means of said tone data processing device in accordance with the output sampling frequency.

Claim 14 (currently amended): A machine-readable medium containing a group of instructions of a program for execution by a processor for collectively receiving, from a storage device storing waveform sample data sampled at a given sampling rate, a given number of the waveform sample data for a plurality of channels asynchronously with the given sampling rate and generating tone data on the basis of the waveform sample data received from said storage device, an input buffer for storing the waveform sample data for each of the channels collectively received from said storage device and an output buffer being connected to said processor, said program comprising:

a first step of collectively reading out, for each of the channels, a given number of the waveform sample data stored in said input buffer and converting, for each of the channels, the sampling rate of the read-out waveform sample data to an inner sampling rate selected for each of the channels from among a plurality of predetermined inner sampling rates, wherein said first step includes comparing the sampling rate of the waveform sample data stored in said input buffer and the plurality of predetermined inner sampling rates to thereby select one of the predetermined inner sampling rates which is higher than or equal to and closest to the sampling rate of the waveform sample data, and converting the sampling rate of the waveform sample data to the selected inner sampling rate;

a second step of performing, for each of the channels, predetermined arithmetic processing on the waveform sample data converted to the selected inner sampling rate;

a third step of converting, for each of the channels, the waveform sample data having undergone the predetermined arithmetic processing to a predetermined output sampling rate; and

a fourth step of writing, into said output buffer, the waveform sample data converted to the predetermined output sampling rate.

Claim 15 (original): A machine-readable medium as recited in claim 14 wherein said program further comprises a step of sequentially reading out the waveform sample data from said output buffer at an output sampling frequency corresponding to said predetermined output sampling rate to thereby generate tone data in accordance with the output sampling frequency.

Claim 16 (currently amended): A tone data processing device for receiving waveform sample data sampled at a given sampling rate and generating tone data on the basis of the received waveform sample data, said tone data processing device being connectable to a bus of a computer, said tone data processing device comprising:

a receiving section that collectively receives, via said bus, under [[a]] control of said computer, for each of a plurality of channels, a given number of the waveform sample data asynchronously with the given sampling rate;

a first sampling rate conversion section that converts, for each of the channels, the sampling rate of the received waveform sample data to an inner sampling rate selected for each of the channels from among a plurality of predetermined inner sampling rates, wherein said first sampling rate conversion section compares the given sampling rate of the received waveform sample data and the plurality of predetermined inner sampling rates to thereby select one of the predetermined inner sampling rates which is higher than or equal to and closest to the sampling rate of the waveform sample data, and converts the sampling rate of the waveform sample data to the selected inner sampling rate;

an arithmetic processing section that performs, for each of the channels, predetermined arithmetic processing on the waveform sample data converted to the selected inner sampling rate;

a second sampling rate conversion section that converts, for each of the channels, the waveform sample data having undergone the predetermined arithmetic processing to a predetermined output sampling rate; and

an output section that adds the waveform sample data of the plural channels converted to the predetermined output sampling rate and outputs the added waveform sample data in accordance with the predetermined output sampling rate.

Claim 17 (canceled)

Claim 18 (currently amended): A tone data processing method of receiving waveform sample data sampled at a given sampling rate and generating tone data on the basis of the received waveform sample data, said waveform sample data being supplied via a bus on a computer, said tone data processing method comprising:

a step of collectively receiving, via said bus, under [[a]] control of said computer, for each of a plurality of channels, a given number of the waveform sample data asynchronously with the given sampling rate;

a step of converting, for each of the channels, the sampling rate of the received waveform sample data to an inner sampling rate selected for each of the channels from among a plurality of predetermined inner sampling rates, wherein said converting step includes comparing the given sampling rate of the received waveform sample data and the plurality of predetermined inner sampling rates to thereby select one of the predetermined inner sampling rates which is higher than or equal to and closest to the sampling rate of the waveform sample data, and converting the sampling rate of the waveform sample data to the selected inner sampling rate;

a step of performing, for each of the channels, predetermined arithmetic processing on the waveform sample data converted to the selected inner sampling rate;

a step of converting, for each of the channels, the waveform sample data having undergone the predetermined arithmetic processing to a predetermined output sampling rate; and

a step of adding the waveform sample data of the plural channels converted to the predetermined output sampling rate and outputting the added waveform sample data in accordance with the predetermined output sampling rate.

Claim 19 (currently amended): A computer system as recited in claim 12 wherein said fourth process accumulates the waveform sample data of a given channel ~~to~~ with the waveform sample data of another channel already written in said output buffer and thereby renews stored contents of said output buffer with resultant accumulated values of the waveform sample data in such a manner that waveform data obtained by adding together the waveform sample data converted to said predetermined output sampling rate are ultimately stored in said output buffer.

Claim 20 (currently amended): A machine-readable medium as recited in claim 14 wherein said fourth step accumulates the waveform sample data of a given channel ~~to~~ with the waveform sample data of another channel already written in said output buffer and thereby renews stored contents of said output buffer with resultant accumulated values of the waveform sample data in such a manner that waveform data obtained by adding together the waveform sample data converted to said predetermined output sampling rate are ultimately stored into said output buffer.

Claim 21 (new): A tone data processing method of collectively receiving, from a storage device storing waveform sample data sampled at a given sampling rate, a given number of the waveform sample data for a plurality of channels asynchronously with the given sampling rate and generating tone data on the basis of the waveform sample data received from said storage device, said waveform sample data being supplied via a bus, said method comprising:

collectively reading out, for each of the channels, a given number of the waveform sample data stored in an input buffer and first converting, for each of the channels, the sampling rate of the read-out waveform sample data to an inner sampling rate selected for each of the channels from among a plurality of predetermined inner sampling rates;

performing, for each of the channels, predetermined arithmetic processing on the waveform sample data converted to the selected inner sampling rate;

second converting, for each of the channels, the waveform sample data having undergone the predetermined arithmetic processing to a predetermined output sampling rate; and

writing, into an output buffer, the waveform sample data converted to the predetermined output sampling rate,

wherein the waveform sample data of individual channels transferred from said storage device to said input buffer can be of different sampling rates, such that said first step of converting comprises converting the waveform sample data to different inner sampling rates depending on respective channels of the waveform sample data, and

wherein when it is possible to perform predetermined arithmetic processing of same contents on the waveform sample data of different channels having been converted to a same inner sampling rate, said step of performing comprises adding together corresponding ones of the waveform sample data of the different channels and performing the predetermined arithmetic processing on the added waveform sample data.

Claim 22 (new): A tone data processing method of collectively receiving, from a storage device storing waveform sample data sampled at a given sampling rate, a given number of the waveform sample data for a plurality of channels asynchronously with the given sampling rate and generating tone data on the basis of the waveform sample data received from said storage device, said waveform sample data being supplied via a bus, said method comprising:

collectively reading out, for each of the channels, a given number of the waveform sample data stored in an input buffer and converting, for each of the channels, the sampling rate of the read-out waveform sample data to an inner sampling rate selected for each of the channels from among a plurality of predetermined inner sampling rates;

performing, for each of the channels, predetermined arithmetic processing on the waveform sample data converted to the selected inner sampling rate;

converting, for each of the channels, the waveform sample data having undergone the predetermined arithmetic processing to a predetermined output sampling rate; and

writing, into an output buffer, the waveform sample data converted to the predetermined output sampling rate,

wherein said step of performing the predetermined arithmetic processing comprises a filter process, and changing a resolution of a set of coefficients to be used in said filter process in accordance with the selected inner sampling rate.